

Attachment 2

Item 9

ATTACHMENT NO 2

Name	Radioactive Materials	Max. Amt.	Where Experience was Gained	Duration of Experience	Type of Use
A. H. Malik	CO ⁶⁰ , Ra ²²⁶	5 mc	ORAU	4 weeks	Study of Survey Instruments
	Sr ⁹⁰ , S ³⁵	25 mc	ORAU	4 weeks	
	I ¹³¹	10 mc	ORAU	4 weeks	Isotope Dilution
	Pr ¹⁴²	7 mc	ORAU	4 weeks	Iden. Unk. Isotopes
	Al ²⁸	6 mc	ORAU	4 weeks	Fast Neutron Activation
	Hg ²⁰³ , Fe ⁵⁹				
	Sc ⁴⁸ , Sr ⁸⁵	1 mc	ORAU	4 weeks	Radioisotope Separation
	C ¹⁴	< 1 mc	ORAU	4 weeks	Characteristics of g Radiation
	K ⁴⁰	< 1 mc	ORAU	4 weeks	Determination Half Life
	Cs ¹³⁷ , Cr ⁵¹	< 1 mc	ORAU	4 weeks	
	Tl ²⁰⁴	< 1 mc	ORAU	4 weeks	γ Ray Spectrometry
	U Natural	gram quantities	Columbia Univ. SAM Lab.	11 weeks <i>months</i>	Separation of Isotopes



UNION CARBIDE CORPORATION
LINDE DIVISION
 P O BOX 44, TONAWANDA, NEW YORK 14150

October 2, 1979

Mr. J. A. Miele
 State of New York Department of Labor
 Division of Industrial Hygiene
 80 Center Street
 New York, New York 10013

Dear Mr. Miele

Please amend our New York State Radioactive Materials License 1925-0143 to authorize Adam H. Malik to perform leak or wipe tests and accompanying assays of sealed sources and apparatus containing licensed or registered radioactive material. Authorization is also sought for performing wipe tests and assays for those materials stipulated in the present license, and for institutions and for materials possessed by other licensees or registrants who would wish to avail themselves of this service.

The equipment to be used for assaying consists of a Nuclear Chicago Model 6770 Counter/Processor, Model 108 G.M. Detector with thin end window having a resolution of 1 to 3.0 mev/e⁻, and Model 122 Marconi Scintillation Counter. The system has a counting efficiency of 0.0045 or a sensitivity of 0.105 c.p.s. Whenever possible sufficient counts will be taken for a 95% level of confidence (2σ). When assays of low level radioactivity (<0.0045 u.c.) are performed the minimum for background and for sample shall be 100 min. The possible error at a level of radioactivity of 0.105 c.p.s. at 95% confidence level is ±1 for a 100 minute count. These values are determined using a cobalt 60 standard.

All radioactive assays will be conducted by comparing the component of interest to a standard of the same material or similar material of a comparable energy level. All wipe or leak test assays are expected to be 1σ level, less than 0.105 u.c.

Wipe tests will be conducted in accordance with NCRP Report No. 30 "Safe Handling of Radioactive Materials".

Radioactive wastes will be disposed of through an authorized waste disposal service.

Very truly yours,

A handwritten signature in black ink, appearing to read "Smit".

T. Smit

T. Smit
 CC: W. J. O'Brien

UCCNHT0003652